

(19) World Intellectual Property
Organization
International Bureau



22 FEB 2005



(43) International Publication Date
28 October 2004 (28.10.2004)

PCT

(10) International Publication Number
WO 2004/092325 A3

(51) International Patent Classification⁷: **A61K 49/00**,
C12Q 1/56, G01N 33/86

(21) International Application Number:
PCT/US2003/041249

(22) International Filing Date:
24 December 2003 (24.12.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/436,270 24 December 2002 (24.12.2002) US
60/456,774 21 March 2003 (21.03.2003) US

(71) Applicant (for all designated States except US): **BOARD OF REGENTS, THE UNIVERSITY OF TEXAS SYSTEM** [US/US]; 210 West 7th Street, Austin, TX 78701 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **JAGADEESWARAN, Pudur** [US/US]; 3511 Elm Knoll, San Antonio, TX 78230 (US).

(74) Agent: **FUSSEY, Shelly, P., M.**; Williams, Morgan & Amerson, P.C., 10333 Richmond Ave., Suite 1100, Houston, TX 77042 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
3 March 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SCREENING METHODS USING ZEBRAFISH TO IDENTIFY THROMBOTIC AND ANTI-THROMBOTIC COMPOUNDS AND GENES

(57) Abstract: Disclosed are improved methods using zebrafish to identifying anti-thrombotic substances for use in therapy and to identify genes associated with all aspects of thrombus formation, including those associated with an increased risk of thrombosis in humans. The preferred screening assays described include laser irradiation injury, sodium hydroxide-induced gill bleeding and red cell lysis assays conducted in zebrafish and applicable to the study of thrombosis in humans.

WO 2004/092325 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/41249

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61K 49/00; C12Q 1/56; G01N 33/86

US CL : 424/9.1, 9.2; 435/13; 436/69

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 424/9.1, 9.2; 435/13; 436/69

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
West, Chemical Abstracts, Biosis

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GREGORY, M. et al. Genetic Analysis of Hemostasis and Thrombosis Using Vascular Occlusion. Blood Cells, Molecules, and Diseases. November/December 2002, Vol. 29, No. 3, pages 286-295, see entire document.	1-58
Y	JAGADEESWARAN, P. et al. Analysis of Hemostasis in the Zebrafish. Methods in Cell Biology. 1999, Vol. 59, pages 337-357, see entire document.	1-58
A	JAGADEESWARAN, P. et al. Developmental Expression of Thrombin in Zebrafish Embryos: A Novel Model to Study Hemostasis. Blood Cells, Molecules, and Diseases. 15 May 1997, Vol. 23, No. 9, pages 147-156.	1-58
A, P	US 2003/0212024 A1 (KEATING et al.) 13 November 2003 (11.13.2003), see entire document.	1-58
A	US 2002/0025297 A1 (SERBEDZIJA et al.) 28 February 2002 (28.02.2002), see entire document.	1-58
A, P	US 6,656,449 B1 (SERBEDZIJA et al.) 02 December 2003 (03.12.2003), see entire document.	1-58

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

06 October 2004 (06.10.2004)

Date of mailing of the international search report

22 DEC 2004

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Doretha Lawrence For
Ralph Gitomer

Telephone No. (571) 272-1600